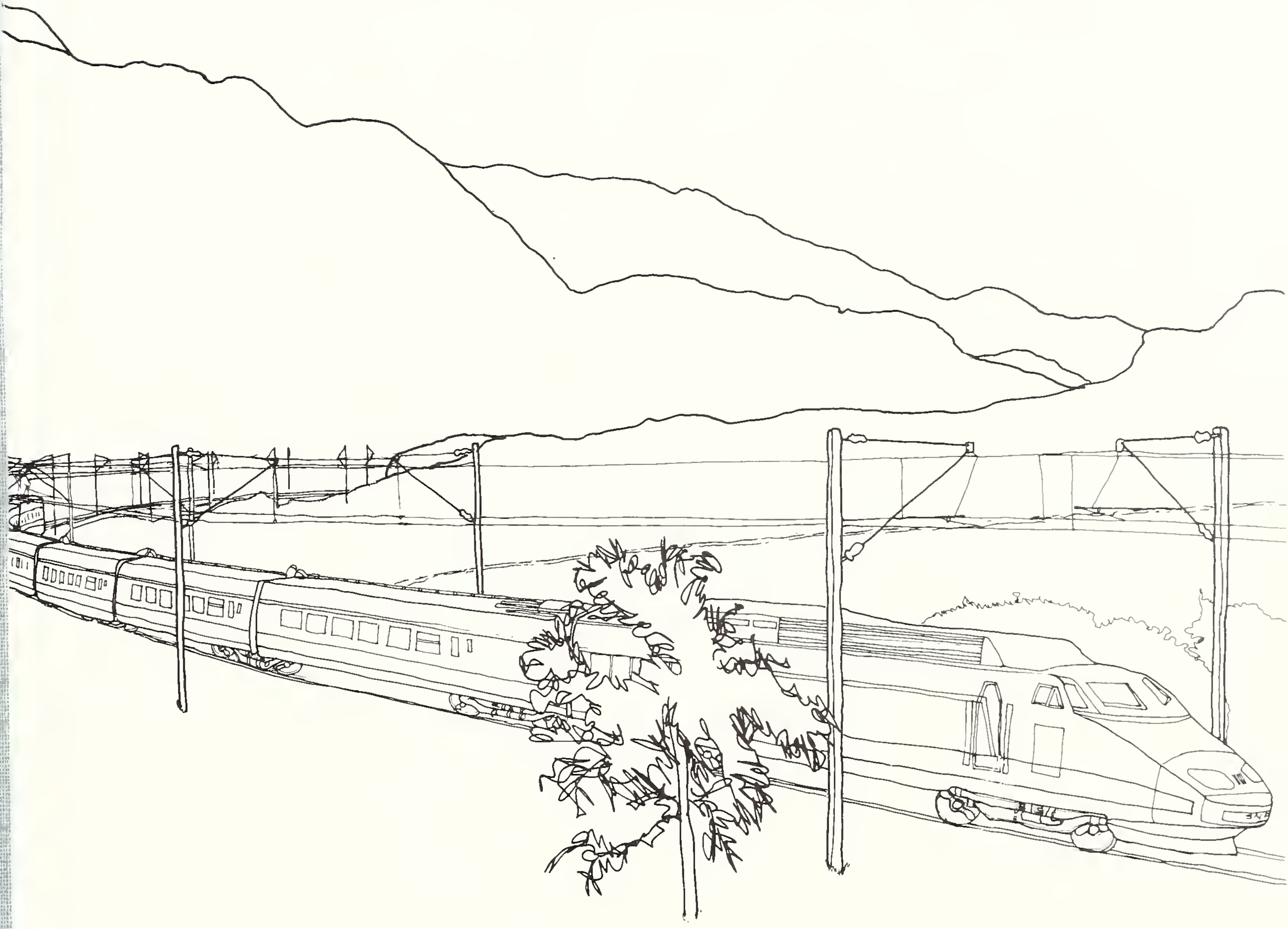
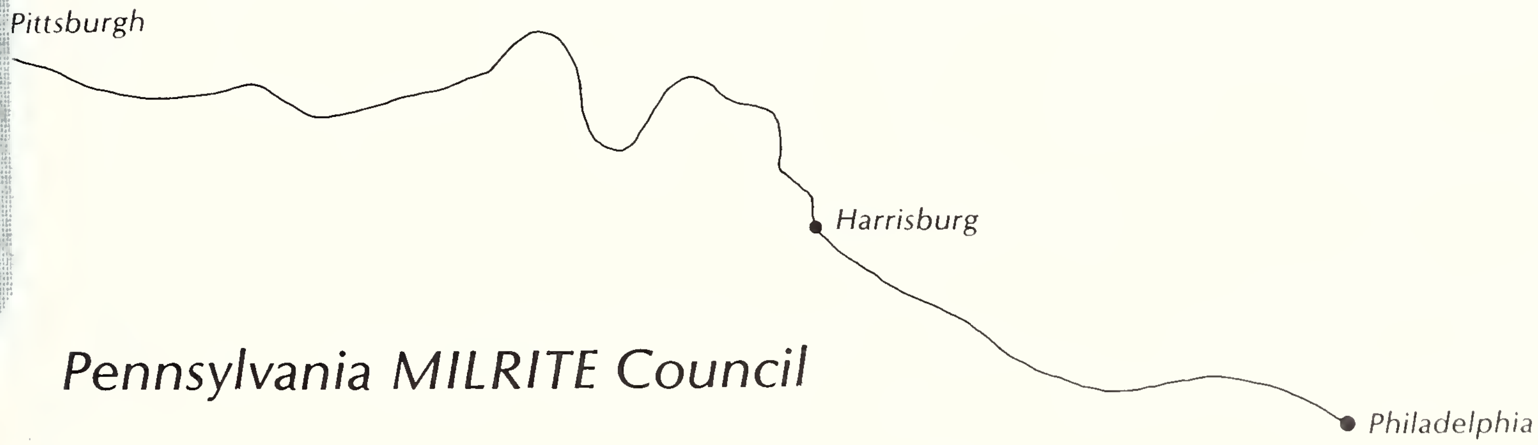
Advantages and Economic Impact of a High-Speed, Intercity Passenger Rail Service





Pennsylvania MILRITE Council

High-Speed Rail Passenger Facilities in Commonwealth of Pennsylvania

Construction and operation of a high speed rail passenger facility in the Commonwealth of Pennsylvania, linking the major metropolitan centers of Philadelphia and Pittsburgh, promises to spark a burst of renewed economic activity. Based on proven, functioning technology, it has the added allure of revitalizing an industry that has already contributed much to the economic development of the Commonwealth.

Features and Facts about High-Speed Rail Systems

What is a high speed rail system? The essential feature of the system is a roadbed-subgrade, ballast, ties and track designed for speeds in excess of 150 miles per hour and used exclusively for the movement of passengers. The right-of-way is completely fenced and grade-separated at all crossings. Electrically-powered cars provide a spacious and comfortable environment for the 400-500 passengers that a typical train would carry, and traveling time between Philadelphia and Pittsburgh would be reduced to under three hours.

The use of dedicated, exclusive track is an essential feature of the system. Freight service operates on flexible schedules and the long heavy trains "punish" the track and run at slow speeds. Exclusive, dedicated track enables the high speed passenger system to avoid the operating conflicts and delays that would be inevitable with shared track.

High speed rail passenger systems are already operational. Japan, France and Great Britain have more than a decade of experience with trains operating at peak speeds of 120-130 miles per hour.

The French are introducing revenue service by the Tres Grand Vitesse (TGV) between Paris and Lyon this summer. The TGV will operate at a top speed of 160 mph. The Japanese, with their renowned "bullet train" (the Shinkansen) and England's British Rail are not far behind. And the German Ministry of Research and Technology is investing heavily in a conventional high speed passenger facility capable of speeds up to 220 mph as well as a magnetic levitation system with a potential of speeds in excess of 300 mph.

Pennsylvania— Logical Candidate for High-Speed Rail

High speed rail passenger facilities are being actively explored in many states. The inter-state rail compact which has been passed by Illinois, Michigan, Indiana, Ohio and Pennsylvania puts the Commonwealth in a strategic position. Pennsylvania, through its rail facilities in Philadelphia, can serve as the link between rail service in the Mid West and in the North East Corridor.

California, Texas and Florida are also deeply involved in high speed rail studies and investigations.

- High speed rail is ideally suited for areas of high density population. Pennsylvania is the fourth most populous state in the nation and 7.5 million people—almost two thirds of total Commonwealth population—live in cities astride the proposed line. The tributary area of the proposed high speed rail line has an average population density of 670 persons per square mile comparable to those in Germany (645 person/sq. mile), Japan (785 person/sq. mile) and England (596 person/sq. mile) and much larger than those in France (251 persons/ sq. mile).

- The Commonwealth has in the Conrail mainline an existing rail corridor between Philadelphia and Pittsburgh as well as electrified rail service between Philadelphia and Harrisburg. The existence of such facilities suggests that construction of a high speed rail passenger facility in the Commonwealth would be easier, cheaper and quicker than otherwise would be the case. Studies will be necessary to determine the extent to which these factors will permit accelerated construction and minimization of costs.

- Existing travel along and through the Philadelphia-Pittsburgh corridor is substantial. In 1975, 286,000 airline passengers were carried between Philadelphia and Pittsburgh, making this city pair 48th in the national ranking of 100 airline markets. The available evidence suggests that a high speed rail system could assume a large proportion of these trips. Travel time by the high speed rail system would be under three hours compared to six hours for passenger car or bus travel. Air travel time between the two cities, including access to and from airports, would be almost three hours. The 400 mile corridor length is ideally suited to a high speed rail facility. At substantially shorter distances motor transport might be a viable alternative. At substantially longer distances air travel has some advantages. Based on a comparable study of high speed rail service in Ohio, it is estimated that by the year 2000, high speed rail could attract an annual total of one million trips along the Pittsburgh-Philadelphia corridor.

These preliminary indications of project feasibility do not by any means exhaust the array of potential benefits expected to arise from construction and operation of a high speed rail passenger system.

Additional Benefits of the Rail System

The range of potential benefits of a high speed rail passenger facility is wide. Many of these benefits will contribute importantly to revitalizing the economy of the Commonwealth. The economic problems besetting Pennsylvania are those which affect all the industrial states in the northeast.

Some of the major benefits of the proposed high speed rail facility are indicated below.

- Assured, frequent, rapid and safe transportation along the Philadelphia-Pittsburgh corridor. In the year 1978 alone more than 50,000 people died in motor vehicle accidents in the U.S. By contrast over the sixteen year span since 1964 there never has been a fatal accident on Japan's high speed rail passenger system.
- Improved transportation will stimulate business and recreational travel with an associated increase in travel expenditures. Studies conducted in nearby states indicate that each rail passenger will spend almost $100 per journey for food, lodging, incidentals and entertainment. While exact patronage estimates must await a detailed feasibility study, it is clear that travel outlays by rail passengers will run into hundreds of millions of dollars. While the bulk of these outlays will be made in Philadelphia and Pittsburgh, other Commonwealth cities—for example, Harrisburg and Altoona—will share in this income gain.
- High speed rail travel will be cost-effective in energy terms. First, electricity for the system will be generated by Pennsylvania coal. This reduces national dependency on imported oil, and assures stability of supply as well as reasonable, competitive price trends. A study prepared in Ohio indicates that high speed rail consumes 2,000 BTU's per passenger mile of travel. By contrast, an average 1980 passenger car consumes 6,250 BTU's per passenger mile. An intermediate size aircraft such as a B-737 or a DC-9 consumes 7,700 BTU's per passenger mile.
- The "Center City Impact" of the system will augment employment and tax revenues in the two major urban centers. Experience indicates that major rail terminals which provide frequent and rapid rail service generate a variety of economic benefits. Within Center City Philadelphia, the recent development seen in Market Street East, including the Gallery I, Gallery II and Gimbels projects totalling $215 million worth of construction, was stimulated by the superb accessibility afforded by nearby rail terminals, and the construction of the new center city commuter rail tunnel and station. Similar projects along the northeast corridor, such as the $63 million Gateway project in Newark, New Jersey also testify to the importance of high speed rail service in promoting new downtown development.
- The construction and operation of the high speed rail facility will spark a major upturn in employment throughout the Commonwealth. Regional and national input-output data suggest that some 150,000 man-years of work would be created in the entire process of rail line construction and railroad equipment purchases. Some 12,000 man-years of this total would be required in the railroad equipment sector while the balance would be in construction activities. In addition there would be between 1,500 and 2,000 new jobs required for system operation and maintenance. As many as 150,000 additional jobs would likely be created through the multiplier effect when newly employed construction and production workers spend their incomes on consumer goods and services. Since the Pennsylvania economy is so broad and diverse, the overwhelming portion of this job creation would take place in the Commonwealth.
- The Commonwealth is in a unique position to secure a leading role in this expanding, high technology field. Pennsylvania has many railroad related manufacturing and service facilities throughout the state. Altoona, for example, has long been a major railroad center. Pennsylvania will be able to supply a substantial portion of the resources needed to construct and operate a high speed rail system. In addition, the Commonwealth will be able to make significant contributions to the creation of similar facilities in other states.

The Next Step

The task that lies ahead requires the launching of a detailed feasibility and preliminary design study. Such an effort will provide capital and operating cost estimates, patronage estimates, travel schedules as well as a probable fare schedule.

Other aspects of the program that should be addressed in the preliminary design study include Project Management, Operations and Concept Design, Design Flow Development, Facilities Design Criteria and Data Base, Geotechnical Data Base and Analysis, Systems Design Criteria, Ways and Structure Concept Design, Stations and Intermodal Facilities Concept Design, Yard/Shop and Wayside Maintenance Design Criteria, Systems Safety Criteria and Audit and a Project Implementation Plan.

While much investigation lies ahead, enough is known to indicate that a high speed rail passenger facility in the Commonwealth of Pennsylvania can make major, perhaps critically important, contributions to strengthening the economy and improving the quality of life of the region.

Pennsylvania MILRITE Council

The Pennsylvania MILRITE Council is an independent agency created by the Pennsylvania General Assembly to foster the economic development of the Commonwealth through the cooperative efforts of labor, business and government.

The acronym "MILRITE" stands for "Make Industry and Labor Right in Today's Economy" and derives from the millwright, who in earlier days designed, erected and equipped the mills and factories of America, paving the way for the nation's industrial growth and prosperity.

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